SNOWMOBILE ACCIDENT ANALYSIS

PROVINCE OF MANITOBA

WINTER OF 1981-82

This report includes all snowmobile accidents reported in Manitoba during the winter of 1981-82. Reportable accidents are those involving fatalities, personal injuries, or property damage in excess of $100.00. The primary function of this information is to help, Instructors in the Manitoba Snowmobile Safety Training Program, identify the major causes of snowmobile accidents and to enable them to lend special emphasis to the appropriate countermeasures.

	1979-80	1980-81	1981-82	Percent Change from 1980-81
Number of Accidents	84	68	59	- 13.2%
Number of Snowmobiles	98	78	68	- 12.8%
Number of machines registered in Province* (As of end of July for year indicated)	27,025	32,128	35,853	+ 11.6%
Fatal Accidents	5	5	2	- 60.0%
Number of Fatalities	5	5	2	- 60.0%
Injurious Accidents	55	42	43	+ 2.4%
Number of Personal Injuries (Not including fatalities)	64	51	45	- 11.8%
Number of Accidents (Injuries not stated)	24	21	14	- 33.3%
Property Damage	$30,100.00	$60,987.00	$33,571.00	- 45.0%

* Snowmobiles in Manitoba are registered for three year registration periods. The figures listed represent the aggregate for the portion of the three year registration to the year indicated. 1981-82 was year three of the 1979-82 registration period.

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A. ACCIDENTS BY MONTH

	1979-80	% OF TOTAL ACCIDENTS	1980-81	% OF TOTAL ACCIDENTS	1981-82	% OF TOTAL ACCIDENTS	PERCENT CHANGE FROM 1980 - 81
October	0	—	1	1.5%	0	—	- 100.0%
November	2	2.4%	5	7.4%	2	3.4%	- 60.0%
December	27	32.1%	13	19.1%	12	20.3%	- 7.7%
January	21	25.0%	22	32.4%	15	25.4%	- 31.8%
February	15	17.9%	17	25.0%	11	18.6%	- 35.3%
March	18	21.4%	8	11.8%	17	28.8%	+ 112.5%
April	1	1.2%	2	2.9%	2	3.4%	—

B. ACCIDENT LOCATIONS

	1979-80	% OF TOTAL ACCIDENTS	1980-81	% OF TOTAL ACCIDENTS	1981-82	% OF TOTAL ACCIDENTS	PERCENT CHANGE FROM 1980 - 81
Public Roadways	22	26.2%	20	29.4%	18	30.5%	- 10.0%
Rivers, Lakes, and Creeks	13	15.5%	15	22.0%	13	22.0%	- 13.3%
Ditches and Right-of-Ways	7	8.3%	9	13.2%	5	8.5%	- 44.4%
Fields, Farm Yards, Private Property	13	15.5%	3	4.4%	6	10.2%	+ 100.0%
Parking Lots	2	2.4%	3	4.4%	3	5.1%	—
Bush Trails and Winter Roads	10	11.9%	2	2.9%	2	3.4%	—
Lakeshore, Riverbanks, Floodway	4	4.8%	2	2.9%	2	3.4%	—
Marked and Groomed Trails	2	2.4%	2	2.9%	2	3.4%	—
Driveways	2	2.4%	2	2.9%	1	1.7%	- 50.0%
School Grounds, Sport Fields	0	—	2	2.9%	2	3.4%	—
Backlane, Alleys	2	2.4%	0	—	1	1.7%	+ 100.0%
Railroads	1	1.2%	0	—	0	—	—

B. ACCIDENT LOCATIONS (Cont'd)

	1979-80	% OF TOTAL ACCIDENTS	1980-81	% OF TOTAL ACCIDENTS	1981-82	% OF TOTAL ACCIDENTS	PERCENT CHANGE FROM 1980 - 81
Race Track (Cross-Country)	1	1.2%	0	—	0	—	—
*Unknown	5	6.0%	8	11.8%	4	6.8%	- 50.0%

* Accident reports contained insufficient information to determine location.

C. ACCIDENT TYPES

	1979-80	% OF TOTAL ACCIDENTS	1980-81	% OF TOTAL ACCIDENTS	1981-82	% OF TOTAL ACCIDENTS	PERCENT CHANGE FROM 1980 - 81
Snowmobile/Fixed Object Collision . . .	17	20.2%	19	27.9%	18	30.5%	- 5.3%
Single Snowmobile Accident	28	33.3%	19	27.9%	16	27.1%	- 15.8%
Snowmobile/Motor Vehicle Collision . . .	19	22.6%	15	22.1%	15	25.4%	—
Snowmobile/Snowmobile Collision	14	16.7%	10	14.7%	7	11.9%	- 30.0%
Snowmobile/Person Collision	5	6.0%	2	2.9%	1	1.7%	- 50.0%
Snowmobile/Train Collision	0	—	1	1.5%	0	—	- 100.0%
Cutter/Fixed Object Collision	0	—	0	—	1	1.7%	+ 100.0%
Cutter/Person Collision	0	—	0	—	1	1.7%	+ 100.0%
Unknown	1	1.2%	2	2.9%	0	—	—

D. LIGHT CONDITIONS

	1979-80	% OF TOTAL ACCIDENTS	1980-81	% OF TOTAL ACCIDENTS	1981-82	% OF TOTAL ACCIDENTS	PERCENT CHANGE FROM 1980 - 81
Daylight	37	44.0%	29	42.6%	37	62.7%	+ 27.6%
Darkness	40	47.6%	34	50.0%	20	33.9%	- 41.2%
Dusk	5	6.0%	3	4.4%	2	3.4%	- 33.3%

D. LIGHT CONDITIONS (Cont'd)

	1979-80	% OF TOTAL ACCIDENTS	1980-81	% OF TOTAL ACCIDENTS	1981-82	% OF TOTAL ACCIDENTS	PERCENT CHANGE FROM 1980 - 81
Unknown	2	2.4%	2	2.9%	0	—	- 100.0%

E. AGE/SEX OF OPERATOR

	1979-80	% OF TOTAL OPERATORS	1980-81	% OF TOTAL OPERATORS	1981-82	% OF TOTAL OPERATORS	PERCENT CHANGE FROM 1980 - 81
Under 16 years of age	11	11.2%	15	20.0%	6	5M/1F 9.2%	- 60.0%
16 - 20	20	20.4%	22	29.3%	20	17M/3F 30.8%	- 9.1%
21 - 25	26	26.5%	15	20.0%	10	9M/1F 15.4%	- 33.3%
26 - 30	12	12.2%	9	12.0%	11	11M/0F 16.9%	+ 22.2%
31 - 35	11	11.2%	4	5.3%	3	2M/1F 4.6%	- 25.0%
Over 35	9	9.2%	4	5.3%	11	9M/2F 16.9%	+ 175.0%
Unknown	9	9.2%	6	8.0%	4	2M/0F 6.2% 2 Unknown	- 33.3%

* Three of the 68 snowmobiles involved in accidents were considered driverless.

F. CONDITIONS OF OPERATORS

	1979-80	% OF TOTAL OPERATORS	1980-81	% OF TOTAL OPERATORS	1981-82	% OF TOTAL OPERATORS	PERCENT CHANGE FROM 1980 - 81
Normal	51	52.0%	45	60.0%	43	66.2%	- 4.4%
Intoxicated	4	4.1%	4	5.3%	5	7.7%	+ 25.0%
Had Been Drinking	23	23.5%	15	20.0%	10	15.4%	- 33.3%
Fatigued	0	—	0	—	0	—	—
Unknown	19	19.4%	11	14.6%	7	10.8%	- 36.4%

F. CONDITIONS OF OPERATORS (Cont'd)

	1979-80	% OF TOTAL OPERATORS	1980-81	% OF TOTAL OPERATORS	1981-82	% OF TOTAL OPERATORS	PERCENT CHANGE FROM 1980 - 81
Defective Sight	1	1.0%	0	—	0	—	——

* Three of the 68 snowmobiles involved in accidents were considered driverless.

G. REGISTRATION

	1979-80	% OF TOTAL MACHINES	1980-81	% OF TOTAL MACHINES	1981-82	% OF TOTAL MACHINES	PERCENT CHANGE FROM 1980 - 81
Snowmobiles Registered	63	64.3%	51	65.4%	44	64.7%	- 13.7%
Snowmobiles Not Registered	18	18.4%	13	16.7%	16	23.5%	+ 23.1%
Snowmobiles Not Required to be Registered	15	15.3%	11	14.1%	6	8.8%	- 45.5%
Unknown	2	2.0%	3	3.8%	2	2.9%	- 33.3%

H. FATALITIES AND PERSONAL INJURIES

	SLIGHT INJURY	SERIOUS INJURY (HOSPITALIZED)	FATALITY	TOTAL	% OF TOTAL INJURIES
Snowmobile Operators	20	18	2	40	85.1%
Snowmobile Passengers	1	3	0	4	8.5%
Cutter Passengers	1	0	0	1	2.2%
Other Persons (ie. Pedestrians)	1	1	0	2	4.2%

I. OWNERSHIP OF SNOWMOBILES

	1979-80	% OF TOTAL MACHINES	1980-81	% OF TOTAL MACHINES	1981-82	% OF TOTAL MACHINES
Operated by Owner	50	51.0%	40	51.3%	32	47.1%

I. OWNERSHIP OF SNOWMOBILES (Cont'd)

	1979-80	% OF TOTAL MACHINES	1980-81	% OF TOTAL MACHINES	1981-82	% OF TOTAL MACHINES
Operated by Other Persons	38	38.8%	33	42.3%	30	44.1%
No Operator	0	—	3	3.8%	3	4.4%
Unknown	10	10.2%	2	2.6%	3	4.4%

J. POSSIBLE INFRACTIONS NOTED ON ACCIDENT REPORTS

(i) Criminal Code of Canada (9)

5 - Operating a snowmobile while having a blood/alcohol level exceeding 80 milligrams of alcohol in 100 millilitres of blood.
3 - Operating a snowmobile while the ability to drive is impaired.
1 - Operating a snowmobile without the consent of the owner.

(ii) Snowmobile Act (21)

6 - Operating a snowmobile on a roadway or on or across a median of a divided highway.
6 - Operating an unregistered snowmobile.
4 - Operating a snowmobile carelessly or without reasonable consideration for other persons and property.
3 - Operating a snowmobile across a roadway illegally.
2 - Failure to report an accident.

(iii) Highway Traffic Act (1)

1 - Failure to report an accident.

K. VEHICLE DEFECTS

The following machine defects were noted on the accident reports as contributing either directly or indirectly to the accident.

K. VEHICLE DEFECTS (Cont'd)

5 - Frozen or stuck throttles

1 - Burned out headlight

L. DESCRIPTION OF ACCIDENT TYPES

(i) SNOWMOBILE/FIXED OBJECT COLLISIONS (18)

There were 18 accidents reporting collisions between snowmobiles and fixed objects resulting in 1 operator fatality, 3 serious injuries to 3 operators, and 7 slight injuries to 7 operators. Ten of the accidents occurred during the daylight, while 7 occurred during the hours of darkness, and 1 during dusk. It was reported that 1 operator was drunk and that 2 more had been drinking at the time of their accidents.

5 - Accidents occurred when the snowmobile being driven on lakes, rivers, and creeks collided with:

- A log that was embedded in the ice,
- A steel pole,
- A rock,
- A dock, and
- A muskrat house.

In one case, the operator was impaired while in another case, the operator had been drinking prior to the accident.

3 - Accidents occurred when the snowmobiles struck trees:

1 - Operator misjudged a turn,
1 - Operator misjudged a fork in a road, and
1 - Snowmobile while being repaired suddenly took off. The operator stated that the throttle became stuck.

3 - Accidents occurred when the snowmobiles being operated in the ditch struck foreign objects such as culverts and rocks.

2 - Accidents occurred when the snowmobiles struck tree stumps. In one case, the snowmobile was being operated along a shoreline, while in the second case, the operator was forced off the trail by another snowmobile.

1 - Accident occurred when the snowmobile left a roadway and struck a building. The operator stated that his throttle became stuck.

1 - Accident occurred when the snowmobile struck a fence post while being operated in a field. The operator was killed in this accident. The operator was not wearing a helmet and had been drinking prior to the accident.

1 - Accident occurred when the snowmobile struck a rock causing the operator to fall off his snowmobile. Where the snowmobile was being operated is unknown.

1 - Accident occurred when the snowmobile struck a telephone pole while operating along a roadway.

L. DESCRIPTION OF ACCIDENT TYPES (Cont'd)

(i) SNOWMOBILE/FIXED OBJECT COLLISIONS (18)

1 - Accident occurred when a stolen snowmobile struck an unknown object.

(ii) SINGLE SNOWMOBILE ACCIDENTS (16)

There were 16 single snowmobile accidents resulting in 9 serious injuries to 7 snowmobile operators and 2 passengers and 6 slight injuries to 6 snowmobile operators. Eleven of these accidents occurred during daylight, with 4 occurring during darkness and 1 during dusk. It was reported that 1 snowmobile operator was intoxicated at the time of the accident and that 5 more had been drinking.

10 - Accidents occurred when the snowmobile operators lost control of their snowmobiles.

- 4 - Accidents occurred when the operators struck snowdrifts. The operator in one case claimed that their throttle became stuck.
- 3 - Accidents occurred when the operators hit a bump. One accident took place in a parking lot.
- 1 - Accident occurred when the operator misjudged a bridge in the trail.
- 1 - Accident occurred while the operator was operating on a roadway. He had been drinking prior to the accident.
- 1 - Accident report was vague; however, it was reported that the operator had been drinking prior to the accident.

2 - Accidents occurred when the operators lost control of their snowmobiles when they came into contact with glare ice. One snowmobile was being operated on a river, while the other snowmobile was being operated in a ditch.

1 - Accident occurred as the operator exited a field and entered a ditch.

1 - Accident occurred when the operator attempted to jump a pit and was thrown over his snowmobile.

1 - Accident occurred when the operator hit a patch of bare pavement while operating on a roadway, causing the snowmobile to flip. The operator was intoxicated at the time of the accident.

1 - Accident occurred when the operator, while riding in a field, swerved to avoid a stick, causing his passenger to fall off the snowmobile.

(iii) SNOWMOBILE/MOTOR VEHICLE COLLISIONS (15)

There were 15 collisions between snowmobiles and motor vehicles. Nine of the collisions occurred during daylight hours and 6 during the hours of darkness. These collisions resulted in 1 operator fatality and serious (hospitalized) personal injuries to 4 operators. Slight personal injuries to 3 operators were also reported. It was reported that 2 of the operators were intoxicated and that another 2 had been drinking.

5 - Accidents occurred involving snowmobiles that were being illegally operated on roadways. Separate cases involved:

- A snowmobile that struck a motor vehicle that was turning into a backlane.

L. DESCRIPTION OF ACCIDENT TYPES (Cont'd)

(iii) SNOWMOBILE/MOTOR VEHICLE COLLISIONS (15)

- A snowmobile that struck a motor vehicle that was exiting a driveway.
- A snowmobile that collided "head-on" with a motor vehicle.
- A snowmobile that failed to stop at an intersection controlled by a stop sign.
- A snowmobile that collided with a motor vehicle while operating during the hours of darkness without its lights on.

3 - Accidents occurred when snowmobilers collided with parked motor vehicles. The circumstances behind these accidents are as follows:

1 - Snowmobile struck a parked motor vehicle when the operator started and mounted the snowmobile. The operator stated that the machine suddenly took off.

1 - Snowmobile struck the rear of a parked motor vehicle. The operator was killed in this accident. It was reported that the operator was intoxicated.

1 - Snowmobile being manoeuvred on a private driveway, struck a motor vehicle that was parked in the same driveway.

3 - Accidents occurred when snowmobiles entered roadways without stopping. In one case, the snowmobile was exiting a playground.

1 - Accident occurred when two parked snowmobiles were struck by a reversing motor vehicle in a parking lot.

1 - Accident occurred when a driverless snowmobile struck a motor vehicle. The owner stated that the throttle became stuck.

1 - Accident occurred when a snowmobile upon entering a roadway from a ditch collided with a motor vehicle.

1 - Accident report was vague; however, it would appear that the snowmobile came into collision with a tractor. The operator was intoxicated at the time of the accident.

(iv) SNOWMOBILE/SNOWMOBILE COLLISIONS (7)

There were 7 accidents involving snowmobiles in collision with other snowmobiles resulting in 4 serious (hospitalized) personal injuries to 3 operators and 1 passenger; and 6 slight injuries to 5 operators and 1 passenger. Five of the accidents occurred during daylight, while 2 occurred during darkness. It was reported that 1 of the operators was intoxicated while another operator had been drinking.

1 - Accident occurred when two snowmobiles collided in a "hit and run" accident. Where the snowmobiles were being operated is unknown. One operator had been drinking prior to the accident.

1 - Accident occurred when 2 snowmobiles travelling in the same direction collided when one snowmobile suddenly turned into the path of the second snowmobile.

1 - Accident occurred when one snowmobile struck the rear of a second snowmobile, causing the second snowmobile to collided with the rear of a third snowmobile.

1 - Accident occurred when a passenger fell from one snowmobile and was struck by a second snowmobile that was following.

L. DESCRIPTION OF ACCIDENT TYPES (Cont'd)

(iv) SNOWMOBILE/SNOWMOBILE COLLISIONS (7)

1 - Accident occurred when a snowmobile entered a parking lot and collided with another snowmobile.

1 - Accident occurred when a snowmobile made a sharp turn into a yard and collided with another snowmobile. The second snowmobile was being operated by a 7 year old boy. The operator of the first snowmobile was intoxicated at the time of the accident.

1 - Accident occurred when one snowmobile drove into the rear of a second stopped snowmobile.

(v) SNOWMOBILE/PERSON COLLISIONS (1)

This accident occurred when a snowmobile that was being operated on a roadway struck a pedestrian from behind, causing slight injuries to the pedestrian. The accident occurred during darkness and the operator had not been drinking at the time of the accident.

(vi) CUTTER/OBJECT COLLISION (1)

This accident occurred when a toboggan that was being towed behind a snowmobile collided with some bullrushes, causing slight injuries to the passenger. The accident occurred during daylight and the condition of the snowmobile operator is unknown.

(vii) CUTTER/PERSON COLLISION (1)

This accident occurred when a snowmobile that was being operated on a roadway swerved to avoid a motor vehicle causing the sleigh, that was being towed, to strike a pedestrian. The pedestrian was seriously injured in this accident. The accident occurred during daylight and the condition of the snowmobile operator is unknown.

M. FATALITIES (2)

In the 1981-82 Snowmobile Season, there were two fatalities. Both of the deceased were snowmobile operators.

- On December 24, 1981, a 56 year old Deloraine man was killed when the snowmobile he was operating struck a fence post. The deceased was not wearing a helmet and is reported to have died due to head injuries sustained. It was reported that the deceased had been drinking prior to the accident.
- On January 30, 1982, a 30 year old Whitemouth man was killed when the snowmobile he was operating collided with the rear of a parked motor vehicle. It was reported that the deceased had been drinking prior to the accident.

N. APPENDIX

In addition to the aforementioned accidents, another accident occurred involving a snowmobile indirectly. This accident occurred when a snowmobile that was operating on a snowbank alongside a roadway, started to slide towards the roadway. In an attempt to avoid hitting the snowmobile, a motor vehicle operator swerved into the next lane, where he collided head-on with an oncoming motor vehicle. Although the snowmobile was not directly involved in the accident, we cannot overlook the fact that it's careless operation that was a contributing factor.

O. COMMENTARY

The following comments summarize noteworthy information derived from this accident analysis. These comments should be included when discussing the safe operation of snowmobiles.

- The need for operator education and proper attitude development cannot be over emphasized. The following figures highlight the need for educating our young snowmobilers.
- Forty percent of the reported snowmobile accidents involved operators 20 years of age and younger.
- Forty-three percent of all the snowmobile offences were committed by operators 20 years of age and younger.
- Single Snowmobile and Snowmobile/Fixed Object Accidents account for nearly 58% of the reported accidents. These accidents were usually a direct result of the operators being unattentive, misjudging, or simply not paying attention to the type of terrain they were operating on.
- Alcohol also appears to be a contributing factor in a significant number of accidents. The operators in over 23% of the reported accidents had either been intoxicated or had been drinking. In this 1981-82 season, alcohol was reported to be a contributing factor in both fatalities.
- Vehicle defects were reported in less than 11% of the accidents. In most cases, the failure was not on the part of the snowmobile but that of it's operator. It is important for the snowmobile operator to understand the capabilities and handling characteristics of their snowmobile and operate in such a manner appropriate to the conditions.